

## **REMARKS/ARGUMENTS**

Claims 6-9 are pending in the application.

### **Rejections under 35 U.S.C. § 103(a)**

Claims 6-9 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,723,518 to Kahl et al. (hereinafter "Kahl"), in view of GB 997,974 in combination with U.S. Patent Nos. 4,784,178 to Kasaya et al. (hereinafter "Kasaya") and 3,706,320 to Kalsi (hereinafter "Kalsi"). The Examiner suggests that dispersers having the claimed pipe, sleeve and piston arrangement were known at the time of the invention and that it would have been obvious to produce the dispersions disclosed in Kahl using the disperser disclosed in GB 997,974 because it would have been obvious to modify the disperser to be electrically or pneumatically controlled to promote automation and precise control and to utilize ceramic materials so as to extend the service life and promote ease of cleaning. Applicants respectfully request reconsideration.

The present invention is directed to a process for producing an aqueous two-component polyurethane coating emulsion that includes pumping a mixture of at least one polyisocyanate and an aqueous binder dispersion under a pressure of 1 to 30 MPa into a disperser. The disperser includes a ceramic sleeve having bores or slots in the wall thereof, with the bores or slots communicating with one end of a pipe, the pipe having an open end remote from said end communicating with the bores or slot. The ceramic sleeve has an open end, a moveable ceramic piston located opposite the open end, with the movement of the moveable ceramic piston being such that flow through the bores or slots can be enabled or completely closed, and with the movement being caused either via a pneumatic drive or an electric step motor. The mixture is pumped into the open end of the ceramic sleeve, through the bores or slots, and through the pipe.

Kahl discloses a method of preparing an aqueous coating composition based on resin binders containing isocyanate-reactive hydrogen atoms and polyisocyanates, by mixing the components with water. The mixture is forced at a pressure of from 1 to 30 MPa through a nozzle of small size in at least one dimension.

GB 997,974 discloses a device for dispersing a contaminant in a liquid flow to produce a uniform dispersion. The device includes a conduit discharging through apertures into another conduit; a chamber resiliently biased against the liquid flow uncovers a greater number of apertures as the rate of flow increases in order to provide a constant pressure-drop across the device.

Kasaya discloses a valve unit having an ON-OFF switch constituted by a valve, the associated valve seat and an insulation layer. The layer is made of a compound consisting of a specific metal and a specific reaction gas and the layer is coated on the outer surface of the valve in such a way that its electrical resistance increases progressively from the inner surface closest to the valve to the outer surface destined to make contact with a guide member of the valve.

Kalsi discloses a valve having a pneumatic operator and a linear port opening rate with a mechanism for compensating variations in the pressure drop across the valve, in order to make the flow a linear function of a control signal. A pressure sensitive device produces a rotation of a square root cam proportional to the pressure drop across the valve. The displacement produced by the cam is multiplied by the control signal and the product is added to a displacement proportional to the control signal. The resulting quantity is compared with the position of the valve stem, and the difference is used to adjust a pilot valve which controls the operator and resets it so as to compensate the variation in the pressure drop across the valve.

The object of the present invention was to provide a mixing apparatus for aqueous two-component polyurethane lacquers having a high lacquer quality that , continuously produces the same emulsion qualities when the amounts deposited vary (see page 4, lines 15-19 of the specification). A particular problem results when certain components are made of steel, which does not permit a tight seal to be achieved reliably (see page 5, lines 6-25 of the specification).

In order to overcome this latter problem, Applicants discovered that ceramic components ground to fit very accurately avoided the leakage problem between the piston and the sleeve, which was a problem when they were made of steel, do not permit a tight seal and thus allow individual bores to be connected through.

The Examiner has used Applicants' invention as a template to string together four references in order to provide his case of obviousness. Using the Applicants' invention in this way cannot support a case of obviousness.

But more particularly, the Examiner has cited Kasaya for the proposition that ceramic materials should be used to provide abrasion resistance. However, Kasaya does not disclose or in any way suggest ceramic components as used and described in the present invention.

Kasaya discloses a valve unit with a switch having an electrically conductive valve which slidably moves within a guide hole defined in an electrically conductive body. A ceramic layer is formed on the peripheral surface of the valve for maintaining an electrically insulated state between the valve and the body. The layer is formed by a physical evaporation method such as an ion-plating method and provides electrical resistance progressively from the inner surface closest to the valve to the outer surface destined to make contact with the wall of the guide hole (col. 1 line 58 to col. 2, line 6). The valve is made of steel (col. 3, line 9).

As is plainly shown in Figs. 1-3, the ceramic sleeve and ceramic piston are solid parts, and as claimed are made of a ceramic material. Kasaya only discloses coating a part of a steel part because of electrical connectivity that is required. Such a disclosure does not suggest or lead one skilled in the art to use a solid ceramic part.

Further, while the present invention seeks to avoid using a steel sleeve or piston to avoid leakage, applying Kasaya as the Examiner has actually teaches away from the present invention because it suggests using steel parts, which Applicants discovered should be avoided due to leakage issues. Therefore, Kasaya would not motivate one skilled in the art to use ceramic parts.

There is no disclosure in any of Kahl, GB 997,974, or Kalsi to use ceramic parts or to modify Kasaya to suggest that a ceramic sleeve and piston should be used. The Examiner's four references, taken as a whole fail to disclose, suggest or in any way motivate a skilled artisan to use a disperser with a ceramic sleeve and piston as is presently claimed.

For all of the reasons stated above, Claims 6-9 are not obvious over the combined prior art cited by the Examiner. Therefore, the rejection of Claims 6-9 under 35 U.S.C. § 103(a) should be withdrawn.

**Double Patenting Rejection**

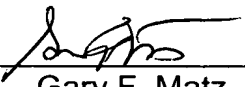
Claims 6-9 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 37-40 of copending Application No. 10/030,927.

Applicants submit herewith a Terminal Disclaimer, which overcomes the double patenting rejection.

**CONCLUSION**

In view of the remarks above, Applicants request reconsideration of the rejections and believe that the claims are in form for allowance. Therefore, allowance of Claims 6-9 are respectfully requested.

Respectfully submitted,

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